Chapter 2. Quality of Health Care

The U.S. health care system is considered to be among the world's best. As better understanding of health and sickness have led to superior ways of preventing, diagnosing, and treating diseases, the health of most Americans has improved dramatically. However, ample evidence indicates that some Americans do not receive the full benefits of high quality care. Specifically, disparities in health care related to race, ethnicity, and socioeconomic status (SES) have been demonstrated by much research and confirmed by the first National Healthcare Disparities Report (NHDR).

Components of Health Care Quality

Quality health care means doing the right thing, at the right time, in the right way, for the right people—and having the best possible results.[1] Quality health care is care that is:

- **Effective**—Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit.
- **Safe**—Avoiding injuries to patients from the care that is intended to help them.
- **Timely**—Reducing waits and sometimes harmful delays for both those who receive and those who give care.
- **Patient centered**—Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- **Equitable**—Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.
- **Efficient**—Avoiding waste, including waste of equipment, supplies, ideas, and energy.[2]

Health care quality is measured in several ways including:

- **Clinical performance measures**—Measures of how well providers deliver specific services needed by specific patients, such as whether children get the immunizations that they need.
- **Patient assessments**—Measures of how well providers meet health care needs from the patient's perspective, such as whether providers communicate clearly.
- **Outcomes of care**—Measures of health that may be affected by the quality of health care received, such as death rates from cancers that can be prevented by screening.

The measures used in this chapter are the same as those used in the National Healthcare Quality Report (NHQR). Because outcome measures like mortality are strongly affected by factors other than health care, such as genetic predisposition, lifestyle, comorbid conditions, and environmental and social determinants, process measures are highlighted in this report. Outcome measures are included in the quality of care measure set and presented in the summary and detailed tables because they add to understanding of disparities. Disparities in delivery of specific health care services that are associated with worse outcomes merit more attention than disparities in health care not associated with differences in outcomes.

How This Chapter Is Organized

This chapter presents new information about disparities in quality of health care in America. It is constructed to mirror sections in the NHQR—effectiveness, patient safety, timeliness, and patient centeredness. Effectiveness of care is presented under nine priority areas: cancer, diabetes, end stage renal disease (ESRD), heart disease, HIV and AIDS, maternal and child health, mental health, respiratory diseases, and nursing home and home health care.

As in the 2003 NHDR, the discussion on quality of care in this chapter focuses on disparities in quality of care related to race, ethnicity, and SES in the general U.S. population. Disparities in quality of care within specific priority populations are presented in Chapter 4.

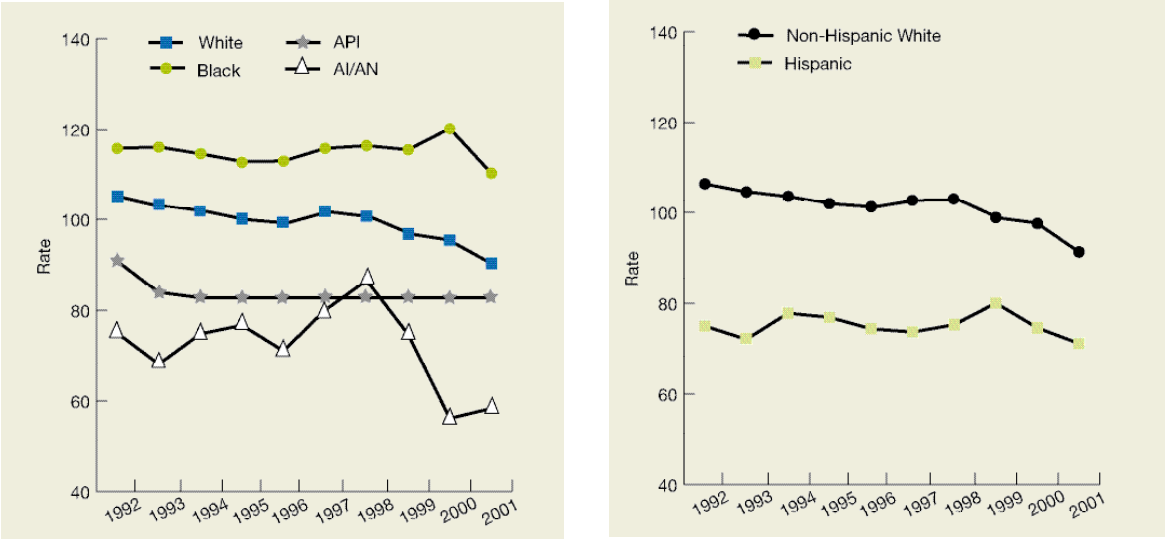
In addition to new data on quality of care, this chapter goes beyond the 2003 NHDR and adds analyses of changes over time, as well as some stratified and multivariate analyses. To present this greater detail, individual sections of Chapter 2 highlight a small number of measures, where applicable. Results for all measures are found in the summary tables at the end of the chapter.

Effectiveness

Cancer

Cancer is caused by the uncontrolled multiplication and spread of abnormal cells. Unchecked, cancer can lead to death.[3] While cancer incidence and death rates are falling,[4] an estimated 1.4 million people will be diagnosed with cancer and 560,000 will die from cancer in the United States in 2004.[5] Total costs of cancer in 2003 exceeded $189 billion; direct costs for physicians, hospitals, and drugs exceeded $64 billion.[6] Cancer incidence, mortality, screening, and treatment va ry by race and ethnicity[7 8] and by SES.[9 10] Ensuring that all populations have access to appropriate cancer screening services is a core element of reducing cancer health disparities.[11] Screening for colorectal cancer with fecal occult blood testing or sigmoidoscopy is an effective way of reducing new cases of late stage disease and mortality caused by this cancer.

Figure 2.1. Age-adjusted incidence rate per 100,000 of late stage (regional and distant) colorectal cancer among people 50 and older, by race (left) and ethnicity (right), 1992-2001



Source: Surveillance, Epidemiology, and End Results program, 1992-2001.

Reference population: People age 50 and older.

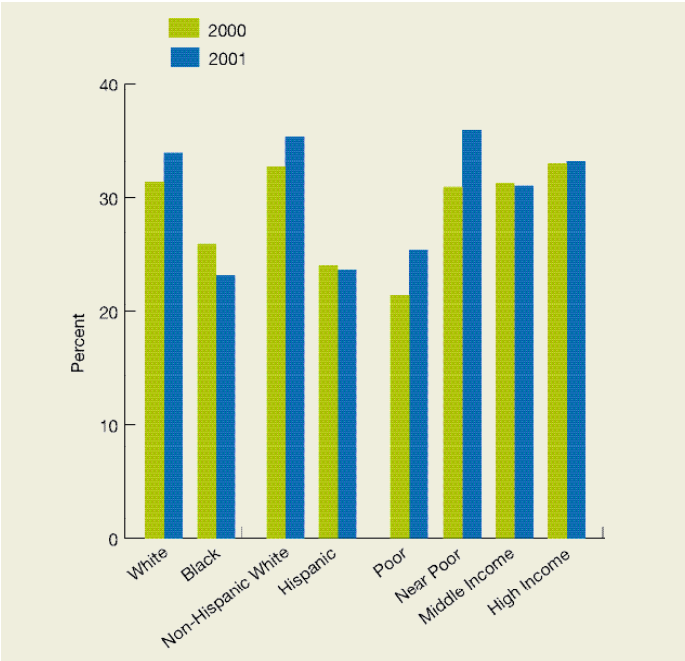
Note: For findings related to all cancer measures, see Tables 2.1a and 2.1b. Available data do not support analyses stratified by SES.

- For all years from 1992 to 2001, rates of late stage colorectal cancer were higher among blacks compared with whites (Figure 2.1, left). APIs had lower rates compared with whites for all years except 2001. AI/ANs had lower rates compared with whites for all years except 1997 and 1998.
- For all years from 1992 to 2001, rates of late stage colorectal cancer were lower among Hispanics compared with non-Hispanic whites (Figure 2.1, right).
- Rates of late stage colorectal cancer declined from 1992 to 2001 among whites and non-Hispanic whites.

Diabetes

Diabetes is a disease in which the body does not produce or use insulin properly; cells are starved for sugar and damage to the heart, kidneys, nerves, and eyes can occur. In 2002, over 18 million people in the United States had diabetes and 1.3 million new cases were diagnosed.[12] Diabetes is the leading cause of blindness, nontraumatic lower extremity amputation, and ESRD and is the sixth leading cause of death. In 2002, costs of diabetes totaled $132 billion, including over $90 billion in direct medical expenditures.[13] Blacks, Hispanics, and AI/ANs are more likely to have diabetes and its complications and are more likely to die from diabetes.[14 15 16] Effective management of diabetes includes hemoglobin A1c management, lipid management, eye examination, foot examination, and influenza immunization.[17 18]

Figure 2.2. Adults with diabetes who had all five recommended diabetic services in the past year, by race, ethnicity, and income, 2000-2001



Source: Medical Expenditure Panel Survey, 2000-2001.

Reference population: Civilian, noninstitutionalized population with diabetes age 18 and older.

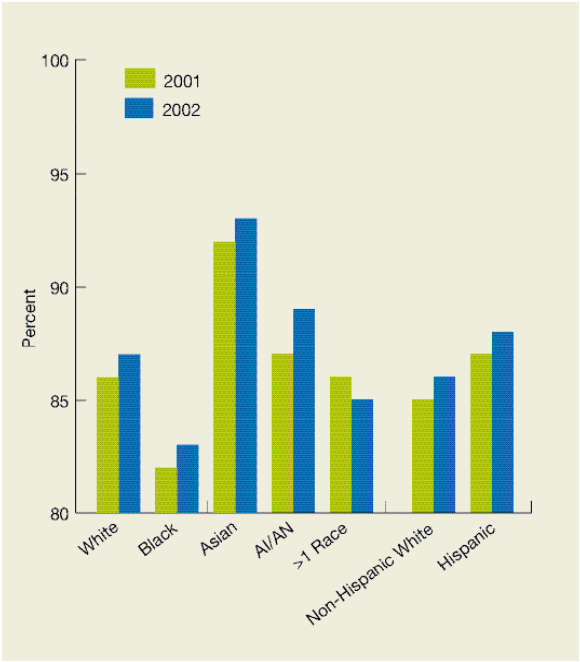
Note: Recommended diabetic services are 1) hemoglobin A1c in past year, 2) lipid profile in past 2 years, 3) retinal eye examination in past year, 4) foot examination in past year, and 5) influenza immunization in past year. Respondents with missing values are excluded from the measure. For findings related to all diabetes measures (including each diabetic service), see Tables 2.2a and 2.2b. Available data do not support analyses stratified by SES.

- In 2001, the proportion of adults with diabetes who received all five recommended diabetic services was lower among blacks compared with whites and among Hispanics compared with non-Hispanic whites (Figure 2.2).
- In 2000 and 2001, differences across income groups in the proportion of adults with diabetes who received all five services were not significant.
- The proportion of adults with diabetes who received all five services did not change significantly from 2000 to 2001 for any racial, ethnic, or income group.
- In multivariate models controlling for age, gender, income, education, insurance, and residence location, blacks were 38% and Hispanics were 33% less likely than their respective comparison groups to receive all services in 2001.

End Stage Renal Disease

End stage renal disease is the permanent failure of the kidneys to excrete waste, concentrate urine, and regulate electrolytes and necessitates lifetime treatment with dialysis or a kidney transplant.[19] Over 400,000 people in the United States have ESRD, and almost 100,000 new ESRD patients begin treatment with either dialysis or renal transplantation each year.[20] About one-fifth of ESRD patients die each year; and age-adjusted 5-year survival is 33% for patients receiving dialysis. In 2001, expenditures for ESRD totaled almost $23 billion, nearly two-thirds of which were paid by Medicare. In general, minorities are more likely to develop ESRD and less likely to be treated for ESRD with kidney transplantation.[21] Adequacy of dialysis is important to the 70% of ESRD patients on dialysis. Racial differences in adequacy of dialysis (urea reduction ratio 65% or higher) have previously been reported.[22]

Figure 2.3. Hemodialysis patients with adequate dialysis (urea reduction ratio 65% or higher), by race and ethnicity, 2001-2002



Source: CMS ESRD Clinical Performance Measures Project, 2001-2002.

Reference population: Hemodialysis patients age 18 and older.

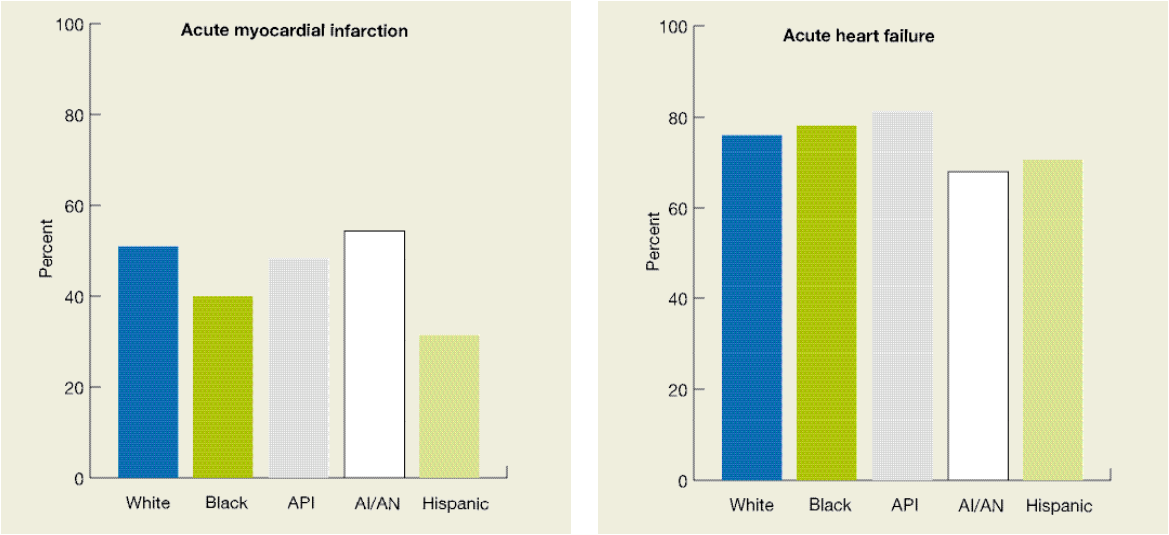
Note: For findings related to all ESRD measures, see Table 2.3a. Available data do not support analyses stratified by SES.

- In both 2001 and 2002, the proportion of adult hemodialysis patients who received adequate dialysis was lower among blacks and higher among Asians compared with whites (Figure 2.3).
- In both years, the proportion of adult hemodialysis patients who received adequate dialysis was similar among Hispanics and non-Hispanic whites.
- The proportion of adult hemodialysis patients who received adequate dialysis did not change significantly from 2000 to 2001 for any racial or ethnic group.

Heart Disease

Heart disease includes coronary and hypertensive heart diseases and heart failure. About 13.2 million people have coronary heart disease, and 1.2 million heart attacks occur each year; about 5 million Americans have heart failure, and 550,000 develop it each year.[23] Heart disease is the leading cause of death for men and for women in the United States, responsible for almost 700,000 deaths in 2002, and the third leading cause of activity limitation. The total economic cost of heart disease is estimated to be $239 billion, including $131 billion in direct health care expenditures. Coronary heart disease prevalence and heart disease death rates are higher among blacks. Racial, ethnic, and socioeconomic differences in cardiac care, especially invasive cardiovascular procedures, have been demonstrated.[24 25 26 27 28]

Figure 2.4. Medicare beneficiaries hospitalized for acute myocardial infarction who receive smoking cessation counseling (left) and Medicare beneficiaries hospitalized for acute heart failure who have an evaluation of left ventricular ejection fraction (right), by race/ethnicity, 2001-2002



Source: CMS Quality Improvement Organization program, 2001-2002.

Reference population: Elderly Medicare beneficiaries hospitalized for acute myocardial infarction (left) or acute heart failure (right).

Note: White, Black, API, and AI/AN are non-Hispanic groups. For findings related to all heart disease measures, see Tables 2.4a and 2.4b. Available data do not support analyses stratified by SES.

- After a heart attack, patients who are smokers need to quit to reduce the risk of subsequent cardiac events. Provider counseling makes the chances of successfully quittinggreater. The proportion of elderly Medicare beneficiaries hospitalized for acute myocardial infarction who received smoking cessation counseling was lower among black and Hispanic elderly compared with non-Hispanic white elderly (Figure 2.4, left).
- To guide appropriate treatment, patients with heart failure need tests to determine how well the heart pumps blood. The proportion of elderly Medicare beneficiaries hospitalized for acute heart failure who received such an evaluation of the left ventricular ejection fraction was lower among AI/AN and Hispanic elderly and higher among black and API elderly compared with non-Hispanic white elderly (Figure 2.4, right).

HIV and AIDS

Measures of quality of care for HIV and AIDS tracked in the NHDR include:

- AIDS prevention
- Management of HIV

For findings related to all quality measures for HIV and AIDS, see Tables 2.5a and 2.5b at the end of this chapter. HIV and AIDS are discussed in the section on HIV care in Chapter 3, Access to Health Care.

Maternal and Child Health

Measures of quality of maternal and child health care tracked in the NHDR include:

- Maternity care
- Childhood immunizations
- Adolescent immunizations
- Treatment of pediatric gastroenteritis
- Childhood screening and counseling
- Childhood dental care

For findings related to all maternal and child health quality measures, see Tables 2.6a and 2.6b at the end of this chapter. Maternal health is discussed in the section on women and child health is discussed in the section on children in Chapter 4, Priority Populations.

Mental Health

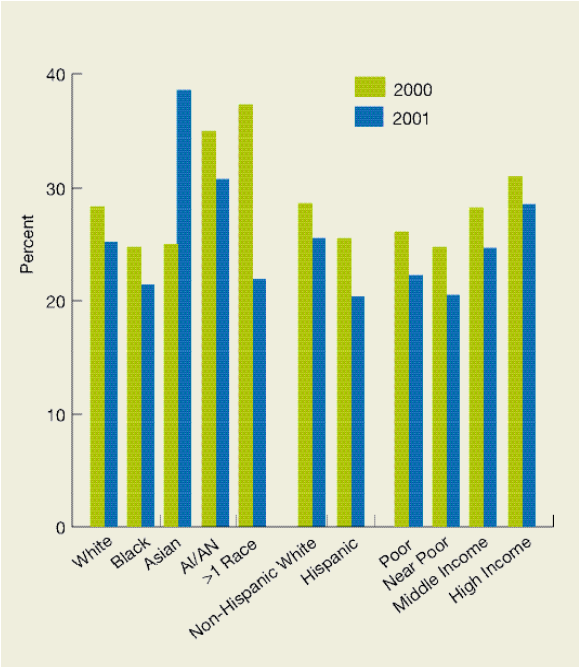
Measures of quality of mental health care tracked in the NHQR include treatment of depression. Most of these measures come from the National Committee on Quality Assurance Health Plan Employer Data and Information Set (HEDIS) which does not collect information about patient race, ethnicity, or SES. Work is currently underway to develop new mental health care measures that could be used to examine disparities.

For findings related to the single mental health quality measure that could be tracked in the NHDR, suicide mortality, see Tables 2.7a and 2.7b at the end of this chapter. Mental health is discussed in the section on mental health care and substance abuse treatment in Chapter 3, Access to Health Care.

Respiratory Diseases

Respiratory diseases include upper respiratory diseases (sinusitis and pharyngitis); chronic lower respiratory diseases (asthma and chronic obstructive pulmonary disease, or COPD); and acute lower respiratory diseases (pneumonia and influenza). Asthma affects about 15 million people and COPD affects about 11 million people in the Nation.[29] In 2002, chronic lower respiratory disease and acute lower respiratory disease were the fourth and seventh leading causes of death respectively.[30] Annual costs of respiratory diseases exceed $132 billion, including $76 billion in health care expenditures. Some respiratory conditions, such as asthma and tuberculosis, are more prevalent among minorities and people with low incomes.[31 32] Racial differences in care of respiratory diseases have also been observed.[33 34 35] Vaccination is an effective strategy for reducing illness, death, and disparities associated with pneumococcal disease and influenza.[36 37]

Figure 2.5. High risk adults ages 18-64 who had influenza vaccination in the past year, by race, ethnicity, and income, 2000-2001



Source: National Health Interview Survey, 2000-2001.

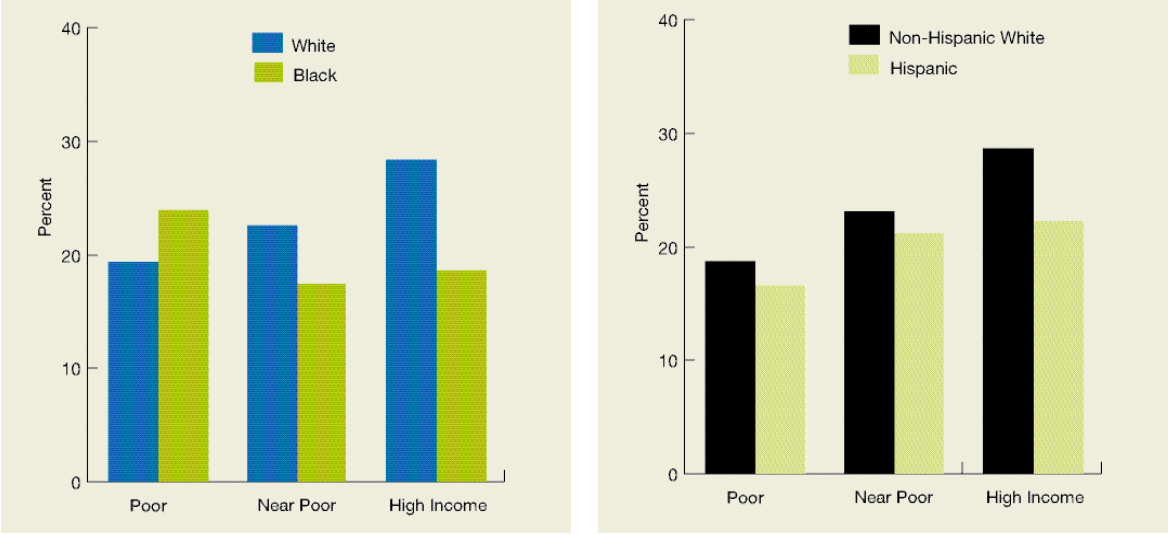
Reference population: Civilian, noninstitutionalized high risk adults age 18-64.

Note: Measure is age adjusted. High risk conditions include diabetes, heart disease, lung disease, kidney disease, liver disease, and cancer. For findings related to all respiratory diseases measures, see Tables 2.8a and 2.8b.

- In both 2000 and 2001, the proportion of high risk adults age 18-64 who received influenza vaccination in the past year was lower among blacks compared with whites and among the poor and near poor compared with people with high incomes (Figure 2.5).
- The proportion of high risk adults who received influenza vaccination was also lower among Hispanics compared with non-Hispanic whites and higher among Asians compared with whites in 2001.
- The proportion of high risk adults who received influenza vaccination declined significantly between 2000 and 2001 among whites, people of more than one race, non-Hispanic whites, and Hispanics but rose among Asians.

Racial and ethnic minorities are disproportionately poor. To distinguish the effects of race, ethnicity, and income on health care quality, measures are presented by income level.

Figure 2.6. High risk adults ages 18-64 who had influenza vaccination in the past year, by race (left) and ethnicity (right) stratified by income, 2001



Source: National Health Interview Survey, 2001.

Reference population: Civilian, noninstitutionalized high risk adults age 18-64.

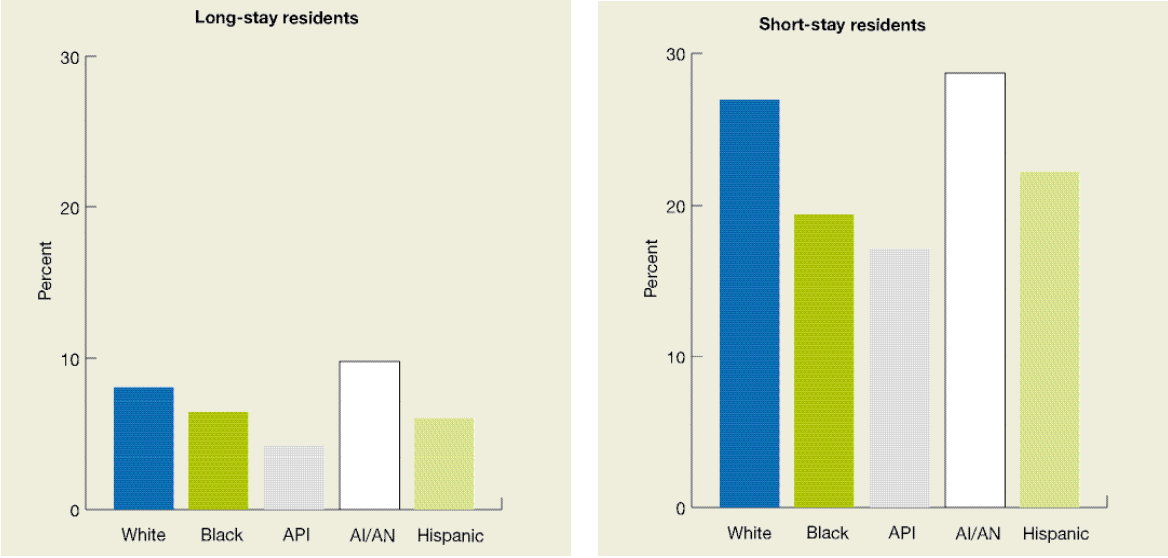
Note: Measure is age adjusted. High risk conditions include diabetes, heart disease, lung disease, kidney disease, liver disease, and cancer.

- Income explains some but not all of the differences in rates of influenza vaccination among high risk adults by race and ethnicity.
- Racial and ethnic differences tend to be larger among high income groups than among the poor and near poor (Figure 2.6).
- No group achieved the Healthy People 2010 (HP2010) goal of 60% of high risk adults age 18-64 vaccinated against influenza.

Nursing Home and Home Health Care

Nursing home and home health care include the provision of personal, social, and medical services to people who have functional or cognitive limitations in their ability to perform self-care and other activities necessary to live independently. On an average day in 1999, 1.6 million people resided in one of America's 18,000 nursing homes.[38] Almost three-quarters of persons discharged from nursing homes required help with three or more activities of daily living (ADLs) prior to discharge. Of persons discharged from nursing homes, 24% leave by dying, 29% are admitted to a hospital, and only 33% are recovered and stabilized. Average length of stay for people discharged from nursing homes is 272 days. In 1998, nursing home expenditures totaled almost $80 billion, about half of which was paid by Medicaid and Medicare. About 70% of nursing home residents are supported in part by Medicaid.[39] Racial, ethnic, and socioeconomic differences in nursing home care have been observed,[40] particularly in the management of pain[41 42] and rates of rehabilitative services.[43] Moreover, black nursing home residents are more likely to live in nursing homes that have limited resources (e.g., fewer nurses)[44] Long-stay nursing home residents require chronic care for extended periods while short-stay nursing home residents require temporary skilled nursing care or rehabilitation services after a hospital stay and are expected to return home. Both types of residents should be checked by nursing home staff for pain so that pain can be treated. However, some residents may refuse pain medications or choose to take less because of side effects or personal or cultural preferences.

Figure 2.7. Nursing home residents with moderate to severe pain among long-stay nursing home residents (left) and short-stay nursing home residents (right), 2002



Source: CMS Minimum Data Set, 2002.

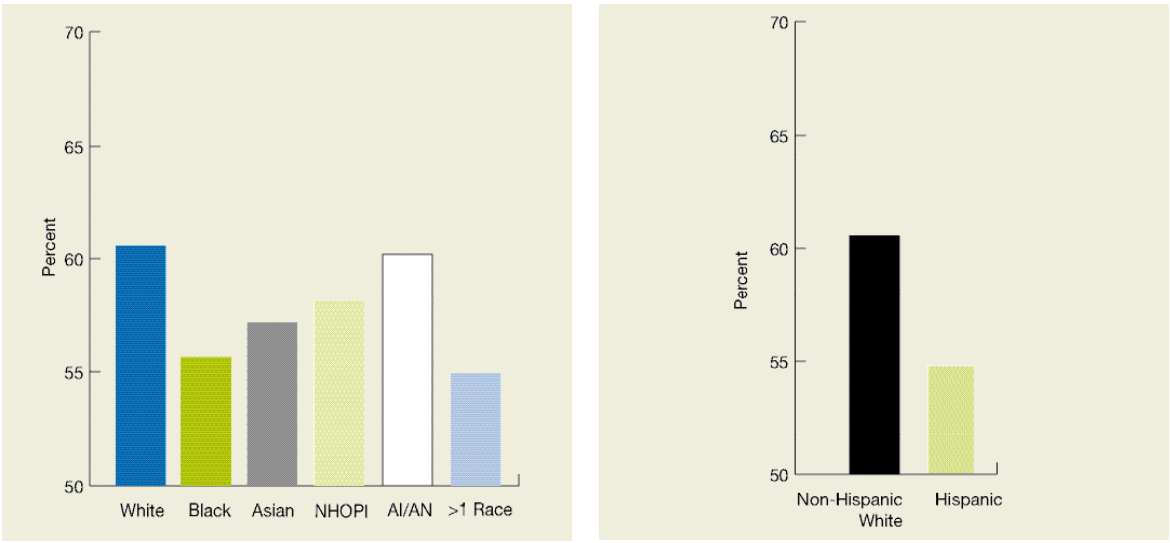
Reference population: Long-stay (left) and short-stay (right) nursing home residents.

Note: White, Black, API, and AI/AN are non-Hispanic groups. Moderate to severe pain is defined as very bad pain at any time or moderate pain every day in the last week. For findings related to all nursing home measures, see Tables 2.9a and 2.9b. Available data do not support analyses stratified by SES.

- In 2002, the proportion of long-stay nursing home residents who reported moderate to severe pain was higher among AI/ANs and lower among non-Hispanic blacks, APIs, and Hispanics compared with non-Hispanic whites (Figure 2.7, left).
- In 2002, the proportion of short-stay nursing home residents who reported moderate to severe pain was lower among non-Hispanic blacks, APIs, and Hispanics compared with non-Hispanic whites (Figure 2.7, right).

On an average day in 2000, 1.5 million people were under the care of one of America's 11,400 home health care agencies.[45] Half of persons served by home health care agencies received help with at least one ADL. Average length of stay for people served by home health care agencies is 312 days, and Medicare is the primary payment source for half of home health care patients. Home health care includes skilled nursing care, physical and occupational therapy, speech-language therapy, and medical social services provided by skilled health care professionals in a patient's home. Most home health care is temporary and part time; home health staff teach patients and their informal caregivers to provide needed care, such as medications, wound care, therapy, and stress management, and to become as self-sufficient as possible. Home health care quality measures relate to activities that are important to live independently and provide information about patients' physical and mental health, and whether their ability to perform basic daily activities is maintained or improved. How well a patient improves in ability level while getting home health care reflects both the agency's quality of service and the patient's level of cooperation. Being able to get to and from the toilet is important for patients to stay clean, feel comfortable, and remain healthy and typically improves with home health care. Independent toileting is critical for patients who do not have informal caregivers to help when home health caregivers are not present

Figure 2.8. Home health care patients who get better at getting to and from the toilet, by race (left) and ethnicity (right), 2002



Source: CMS Outcome and Assessment Information Set, 2002.

Reference population: Home health care patients.

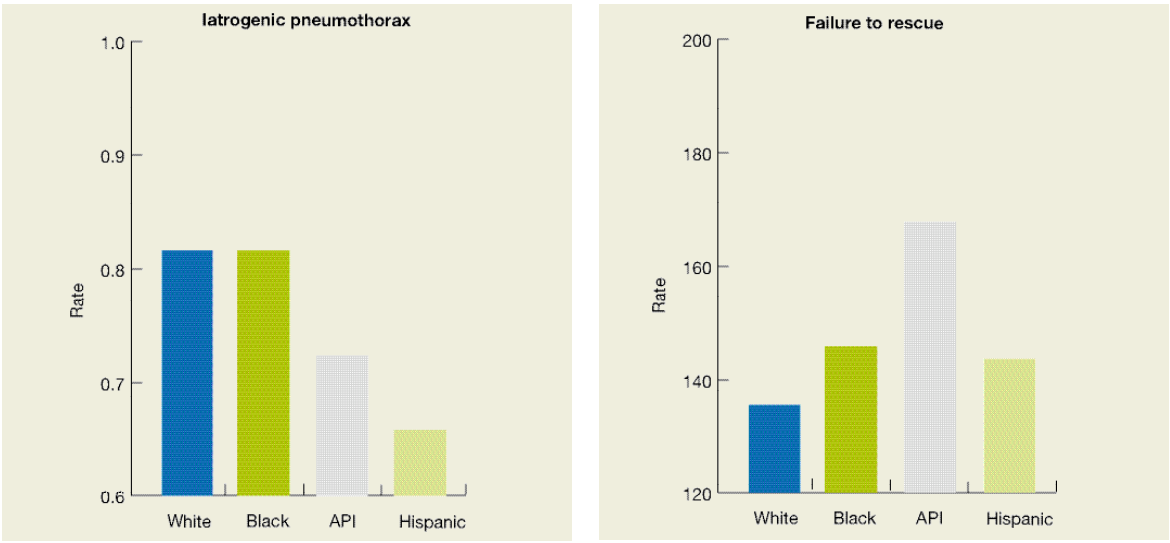
Note: For findings related to all home health care measures, see Tables 2.9a and 2.9b. Available data do not support analyses stratified by SES.

- In 2002, the proportion of home health care patients who got better at getting to and from the toilet was lower among blacks and people of more than one race compared with whites (Figure 2.8, left).
- In 2002, the proportion of home health care patients who got better at getting to and from the toilet was lower among Hispanics compared with non-Hispanic whites (Figure 2.8, right).

Patient Safety

Medical care can lead to injuries to patients from the care that is intended to help them. Adverse drug reactions, both avoidable and unavoidable, occur in 6.7% of hospitalized patients[46] and are rising.[47] In two studies, preventable adverse drug events were found to occur in about 2% of hospital admissions[48 49] and 20% of these events were life-threatening. Among Medicare beneficiaries in ambulatory settings, the overall rate of adverse drug events was 50 per 1,000 person-years; over 40% of serious, life-threatening, or fatal events were deemed preventable.[50] An estimated 44,000 to 98,000 Americans die each year as a result of medical errors, making it the eighth leading cause of death.[51] Costs attributable to medical errors are estimated at $17 billion to $29 billion annually.[51] Visits to U.S. emergency departments for adverse effects of medical treatments increased 67% between 1992 and 1999.[52]

Figure 2.9. Iatrogenic pneumothorax per 1,000 discharges (left) and deaths per 1,000 discharges with complications potentially resulting from care (failure to rescue) (right), by race/ethnicity, 2001



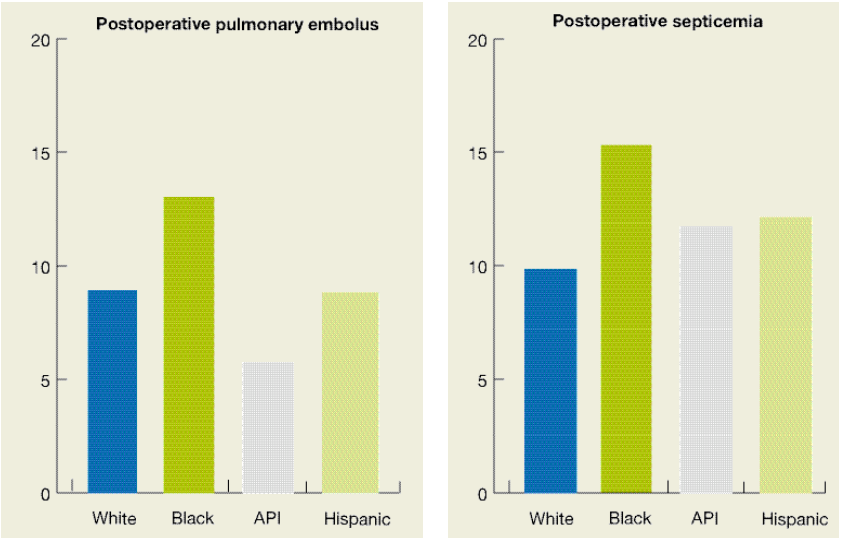
Source: HCUP State Inpatient Databases disparities analysis file, 2001.

Reference population: All hospitalized patients (left) and hospitalized patients with complications potentially resulting from care (right).

Note: White, Black, and API are non-Hispanic groups. Rates are adjusted by age, gender, age-gender interactions, comorbidities, and DRG clusters. For findings related to all patient safety measures, see Table 2.10a. Available data do not support analyses stratified by SES.

- Human error during procedures can sometimes lead to injuries or adverse events. These include accidental laceration, leaving a foreign body, or iatrogenic pneumothorax (puncture of the lung) during a procedure. In 2001, rates of iatrogenic pneumothorax were lower among Hispanics compared with non-Hispanic whites (Figure 2.9, left). Black-white differences were not significant.
- Deaths that could be avoided include those among patients hospitalized for conditions that rarely result in death and those associated with complications of care. In 2001, deaths from complications potentially resulting from care (failure to rescue) were higher among APIs compared with non-Hispanic whites (Figure 2.9, right). Other differences by race/ethnicity were not significant.

Figure 2.10. Postoperative pulmonary embolus or deep vein thrombosis per 1,000 surgical discharges (left) and postoperative septicemia per 1,000 elective surgery discharges of longer than 3 days (right), by race/ethnicity, 2001



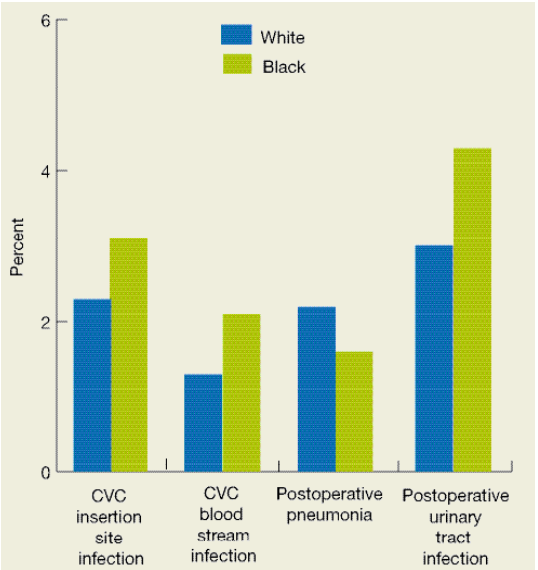
Source: HCUP State Inpatient Databases disparities analysis file, 2001.

Reference population: Patients hospitalized for surgery (left) and for elective surgery with stay longer than 3 days (right).

Note: White, Black, and API are non-Hispanic groups. Rates are adjusted by age, gender, age-gender interactions, comorbidities, and DRG clusters. For findings related to all patient safety measures, see Tables 2.10a. Available data do not support analyses stratified by SES.

- Inpatient care can be compromised by complications that arise during surgery or in the postoperative period. Following surgery, blood clots can form in the legs (deep vein thrombosis) and travel to the lungs (pulmonary embolus). In 2001, rates of postoperative pulmonary embolus or deep vein thrombosis were higher among blacks and lower among APIs compared with non-Hispanic whites (Figure 2.10, left).
- Nosocomial infections are infections acquired in the hospital. In 2001, rates of postoperative septicemia (life-threatening invasion of the bloodstream by microorganisms) were higher among blacks and Hispanics compared with non-Hispanic whites (Figure 2.10, right).

Figure 2.11. Various nosocomial infections, by race, 2002



Source: Medicare Patient Safety Monitoring System, 2002.

Reference population: Hospitalized Medicare beneficiaries.

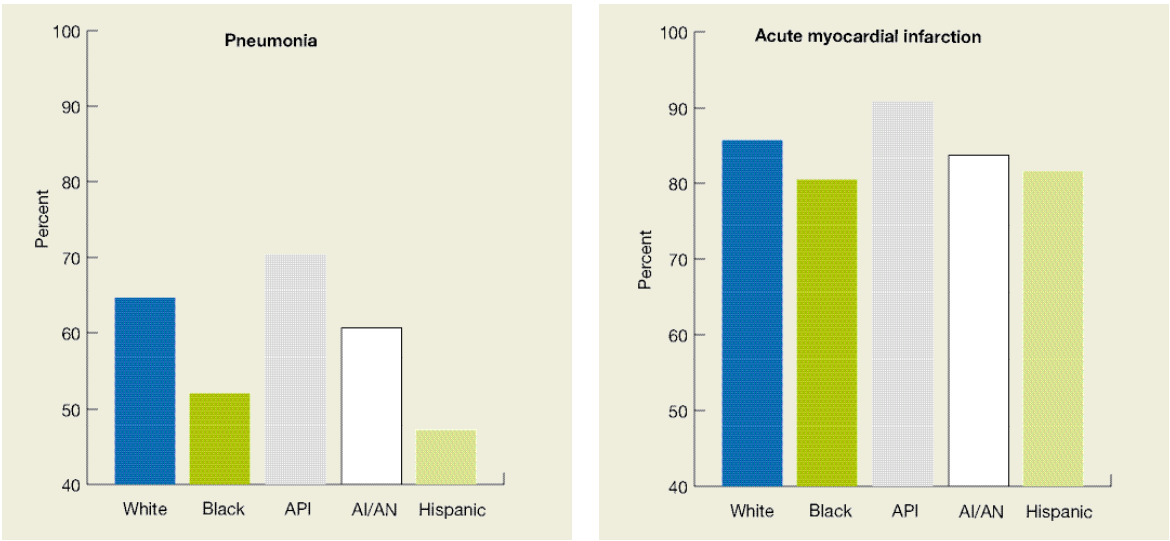
Note: For findings related to all patient safety measures, see Table 2.10a. Available data do not support analyses stratified by SES.

- Black Medicare beneficiaries also tended to have higher rates of a variety of nosocomial infections associated with operative procedures and central venous catheters (CVCs)—i.e., catheters inserted into large veins near the heart which are commonly used to give medications, fluids, and nutrients to severely ill patients. However, differences compared with whites did not attain statistical significance due to small sample sizes (Figure 2.11).

Timeliness

Timely care delivers appropriate medical services when they are needed. It reduces waits and sometimes harmful delays for both those who receive and those who give care. Delays in care are not uncommon. For example, while patients seek care from emergency departments for different reasons and with va rying levels of urgency, they wait an average of 45 minutes to see a physician. Those with emergent conditions (i.e., conditions that should be cared for in less than 15 minutes) wait an average of 24 minutes.[53] Precise estimates of the human costs of delayed care are not available. Overcrowding in emergency rooms leads to higher death and revisit rates,[54] some of which may be related to delays in treatment. The precise costs of delayed care are also not known. People who have a primary care provider have lower long-term health care costs,[55 56] perhaps in part related to more timely access to care. Timely care is particularly important for patients hospitalized for medical emergencies.

Figure 2.12. Percent of Medicare beneficiaries hospitalized for pneumonia who receive antibiotics within 4 hours of arrival (left) and hospitalized for acute myocardial infarction who receive aspirin within 24 hours of admission (right), by race/ethnicity, 2001-2002



Source: CMS Quality Improvement Organization program, 2001-2002.

Reference population: Elderly Medicare beneficiaries hospitalized for pneumonia (left) or acute myocardial infarction (right).

Note: White, Black, API, and AI/AN are non-Hispanic groups. For findings related to all timeliness measures, see Tables 2.11a and 2.11b. Available data do not support analyses stratified by SES.

- The prompt administration of antibiotics can save lives and reduce lengths of stay for pneumonia. The proportion of elderly Medicare beneficiaries hospitalized for pneumonia who received antibiotics within 4 hours of arrival was lower among black and Hispanic elderly and higher among API elderly compared with non-Hispanic white elderly (Figure 2.12, left).
- Aspirin should be given immediately to patients with heart attacks. The proportion of elderly Medicare beneficiaries hospitalized for acute myocardial infarction who received aspirin within 24 hours of admission was lower among black and Hispanic elderly and higher among API elderly compared with non-Hispanic white elderly (Figure 2.12, right).

Patient Centeredness

Patient centered care is respectful of and responsive to individual patient preferences, needs, and values and ensures that patient values guide all clinical decisions. Measures of patient centeredness tracked in the NHDR include:

- Patient-provider communication
- Patient-provider relationship

For findings related to all measures of patient centeredness, see Tables 2.12a and 2.12b at the end of this chapter. Patient-provider communication and relationship are discussed in the section on patient perceptions of care in Chapter 3, Access to Health Care.

Table 2.1a. Racial and Ethnic Differences in Effectiveness of Care: Cancer

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Cancer Screening[iii]						
Rate of breast cancers diagnosed at late stage	=	↑ [iii]		↑		↑
Rate of cervical cancers diagnosed at late stage	↓	= [iii]		↑		↓
Rate of colorectal cancers diagnosed at late stage	↓	= [iii]		↑		↑
Cancer Treatment[iv]						
Cancer deaths per 100,000 population per year for all cancers	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 male population per year for prostate cancer	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 female population per year for breast cancer	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 population per year for lung cancer	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 population per year for colorectal cancer	↓	↑ [iv]		↑		↑

Table 2.1b. Socioeconomic Differences in Effectiveness of Care: Cancer

Measure	Income Difference[v]			Educational Difference[vi]		Insurance Difference[vii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Cancer Treatment[iv]						
Cancer deaths per 100,000 population per year for all cancers				↓	↓	
Cancer deaths per 100,000 male population per year for prostate cancer				↓	↓	
Cancer deaths per 100,000 female population per year for breast cancer				=	↓	
Cancer deaths per 100,000 population per year for lung cancer				↓	↓	
Cancer deaths per 100,000 population per year for colorectal cancer				↓	↓	

[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: Surveillance, Epidemiology, and End Results program, 2001. This source does not provide rate estimates for Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

[iv] Source: National Vital Statistics System-Mortality, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

[v] Compared with persons with family incomes 400% of Federal poverty thresholds or above.

[vi] Compared with persons with any college education.

[vii] Compared with persons under 65 with any private health insurance.

Key to Symbols Used in Quality of Health Care Tables:

=: Group and comparison group receive about same quality of health care or have similar outcomes.

↑ Group receives better quality of health care than the comparison group or has better outcomes.

↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.

Blank cell: Reliable estimate for group could not be made.

Table 2.2a. Racial and Ethnic Differences in Effectiveness of Care: Diabetes

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Management of Diabetes						
Adults with diabetes who had a hemoglobin A1c measurement at least once in past year[iii]	=					↓
Adults with diabetes who had a lipid profile in past 2 years[iii]	=					=
Adults with diabetes who had a retinal eye examination in past year[iii]	=					↓
Adults with diabetes who had a foot examination in past year[iii]	=					↓
Adults with diabetes who had an influenza immunization in past year[iii]	↓					↓
Hospital admissions for uncontrolled diabetes per 100,000 population[iv]	↓[iv]	= [iv]				↓
Hospital admissions for short-term complications of diabetes per 100,000 population[iv]	↓[iv]	↑ [iv]				=
Hospital admissions for long-term complications of diabetes per 100,000 population[iv]	↓[iv]	= [iv]				↓
Hospital admissions for lower extremity amputations in patients with diabetes per 1,000 population[v]	=					

Table 2.2b. Socioeconomic Differences in Effectiveness of Care: Diabetes

Measure	Income Difference[vi]			Educational Difference[vii]		Insurance Difference[viii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Management of Diabetes[iii]						
Adults with diabetes who had a hemoglobin A1c measurement at least once in past year	↓	=	=	↓	=	
Adults with diabetes who had a lipid profile in past 2 years	=	=	=	↓	↓	↓
Adults with diabetes who had a retinal eye examination in past year	↓	↓	=	↓	=	↓
Adults with diabetes who had a foot examination in past year	=	=	=	=	=	=
Adults with diabetes who had an influenza immunization in past year	=	=	=	=	=	=

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv] Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[v] Source: National Hospital Discharge Survey, 1999-2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[vi] Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[vii] Compared with persons with any college education.
[viii] Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

Table 2.3a. Racial and Ethnic Differences in Effectiveness of Care: End Stage Renal Disease

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Management of End Stage Renal Disease[iii]						
Hemodialysis patients with urea reduction ratio 65% or higher	↓	↑		=	=	=
Hemodialysis patients with hemoglobin 11 or higher	=	=		=	=	↑
Hemodialysis patients with arteriovenous fistula as primary mode of vascular access	↓	=		=	=	↑
Renal Transplantation						
Dialysis patients registered on the waiting list for transplantation	↓	↑[iv]		↓		↓
Persons receiving a kidney transplant within 3 years of date of renal failure	↓	↓[iv]		↓		↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii] Source: CMS End Stage Renal Disease Clinical Performance Measures Project, 2002.
[iv]U.S. Renal Data System, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
↑ Group receives better quality of health care than the comparison group or has better outcomes.
↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.4a. Racial and Ethnic Differences in Effectiveness of Care: Heart Disease

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Counseling on Risk Factors[iii]						
Current smokers age 18 and over receiving advice to quit smoking	=					=
Treatment of Acute Myocardial Infarction?						
AMI patients administered aspirin within 24 hours of admission	↓[iv]	↑[iv]		=		↓
AMI patients with aspirin prescribed at discharge	↓[iv]	=[iv]		=		↓
AMI patients administered beta-blocker within 24 hours of admission	=[iv]	=[iv]		=		↓
AMI patients with beta blocker prescribed at discharge	=[iv]	=[iv]		=		↓
AMI patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	=[iv]	=[iv]		=		=
AMI patients given smoking cessation counseling while hospitalized	↓[iv]	=[iv]		=		↓
Treatment of Acute Heart Failure[iv]						
Heart failure patients with evaluation of left ventricular ejection fraction	↑[iv]	↑[iv]		↓		↓
Heart failure patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	=[iv]	=[iv]		=		=
Management of Congestive Heart Failure[v]						
Hospital admissions for congestive heart failure per 100,000 population	↓					
Inpatient Mortality for Cardiovascular Conditions and Procedures[v]						
Deaths per 1,000 adult admissions with acute myocardial infarction	=[vi]	=[vi]				=
Deaths per 1,000 adult admissions with congestive heart failure	↑[vi]	=[vi]				↑
Deaths per 1,000 admissions with coronary artery bypass surgery, age 40+	=[vi]	=[vi]				=
Deaths per 1,000 admissions with Percutaneous transluminal coronary angioplasty, age 40+	↓[vi]	=[vi]				↓
Deaths per 1,000 admissions with abdominal aortic aneurysm repair	=[vi]					=
Deaths per 1,000 pediatric heart surgery admissions, age <18	=[vi]	=[vi]				=

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv] Source: CMS Quality Improvement Organization program, 2001-2002. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander, American Indian or Alaska Native. These contrasts compare each group with non-Hispanic whites.
[v] Source: National Hospital Discharge Survey, 2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[vi] Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; AMI=acute myocardial infarction

Table 2.4b. Socioeconomic Differences in Effectiveness of Care: Heart Disease

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Counseling on Risk Factors[iv]						
Current smokers age 18 and over receiving advice to quit smoking	=	=	=	=	=	↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: HS=high school

Key to Symbols Used in Quality of Health Care Tables:
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↓Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.5a. Racial and Ethnic Differences in Effectiveness of Care: HIV and AIDS

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
AIDS Prevention						
New AIDS cases per 100,000 population 13 and over[iii]	↓[iii]	↑[iii]		↓		↓
Management of HIV						
HIV-infection deaths per 100,000 population[iv]	↓	↑[iv]		=		↓

Table 2.5b. Socioeconomic Differences in Effectiveness of Care: HIV and AIDS

Measure	Income Difference[v]			Educational Difference[vi]		Insurance Difference[vii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Management of HIV						
HIV-infection deaths per 100,000 population[iv]				↓	↓	

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Centers for Disease Control and Prevention, 2002. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[iv]Source: National Vital Statistics System-Mortality, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[v]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[vi]Compared with persons with any college education.
[vii]Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

Key to Symbols Used in Quality of Health Care Tables:
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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.6a. Racial and Ethnic Differences in Effectiveness of Care: Maternal and Child Health

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Maternity Care[iii]						
Pregnant women receiving prenatal care in first trimester	↓	=	↓	↓		↓
Live-born infants with low birthweight (<2,500 grams)	↓	=	=	=		=
Live-born infants with very low birthweight (<1,500 grams)	↓	↑	↓	=		=
Infant mortality per 1,000 live births, all	↓	↑	↓	↓		=
Infant mortality per 1,000 live births, birthweight >2,499 grams	↓	↑	=	↓		↑
Infant mortality per 1,000 live births, birthweight 1,500-2,499 grams	=	↑		↓		↓
Infant mortality per 1,000 live births, birthweight <1,500 grams	↓	=	=	=		=
Maternal deaths per 100,000 live births	↓					↓
Immunization, Childhood[iv]						
Children 19-35 months who received all recommended vaccines	↓	=		↓	↓	↓
Children 19-35 months who received 4 doses of diphtheria-tetanus-pertussis (DTaP) vaccine	↓	=		↓	↓	↓
Children 19-35 months who received 3 doses of polio vaccine	↓	=	=	=	=	=
Children 19-35 months who received 1 dose of measles-mumps-rubella vaccine	=	=	↑	↓	=	↓
Children 19-35 months who received 3 doses of *Hinfluenzae* type b (Hib) vaccine	↓	=	↑	↓	=	=
Children 19-35 months who received 3 doses of hepatitis B vaccine	↓	=		↓	↓	=
Children 19-35 months who received 1 dose of varicella vaccine	=	↑		=	=	↑
Immunization, Adolescent[v]						
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	=				=	=
Adolescents (13-15) who received 2 or more doses of measles-mumps-rubella vaccine	↓				=	↓
Adolescents (13-15) who received 1 or more doses of diphtheria-tetanus booster	=				=	=
Adolescents (13-15) who received 1 or more doses of varicella vaccine	=					=

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii] Source: National Vital Statistics System, 2001. This source did not collect information for >1 race.
[iv]Source: National Immunization Survey, 2002.
[v]Source: National Health Interview Survey, 2001.

Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Table 2.6a. Racial and Ethnic Differences in Effectiveness of Care: Maternal and Child Health (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Treatment of Pediatric Gastroenteritis[iii]						
Hospital admissions for pediatric gastroenteritis per 100,000 population	= [iii]	↑ [iii]				=
Childhood Screening and Counseling[iv]						
Children who had their height and weight measured by a doctor or other health provider	=	= [iv]		↓		↓
Children 2-17 with advice about physical activity	=	= [iv]		↓		=
Children 2-17 with advice about eating healthy	=	= [iv]		↓		↓
Children 3-6 with a vision check	↑					↓
Children with advice to parent or guardian about smoking in the house	=	↓ [iv]		=		↑
Children 0-40 lbs with advice to parent or guardian about using child car safety seats	=					=
Children 40-80 lbs with advice to parent or guardian about using booster seats	=					=
Children over 80 lbs with advice to parent or guardian about using lap and shoulder belts	=	= [iv]				=
Children 2-17 with advice about using helmets	=	= [iv]		↓		=
Childhood Dental Care[iv]						
Children 2-17 with a dental visit	↓	↓ [iv]		↓		↓

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[ii] Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity ve ry differently from other sources. Race/ethnicity information is categorized as a single item: Non-Hispanic white, Non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[iv] Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate. This source did not collect information for >1 race.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.6b. Socioeconomic Differences in Effectiveness of Care: Maternal and Child Health

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Maternity Care[iv]						
Pregnant women receiving prenatal care in first trimester				↓	↓	
Live-born infants with low birthweight (<2,500 grams)				↓	↓	
Live-born infants with very low birthweight (<1,500 grams)				=	↓	
Infant mortality per 1,000 live births, all				↓	↓	
Infant mortality per 1,000 live births, birthweight >2,499 grams				↓	↓	
Infant mortality per 1,000 live births, birthweight 1,500-2,499 grams				↓	↓	
Infant mortality per 1,000 live births, birthweight <1,500 grams				=	=	
Maternal deaths per 100,000 live births				↓	↓	
Immunization, Childhood[v]						
Children 19-35 months who received all recommended vaccines	↓	↓	↓			
Children 19-35 months who received 4 doses of diphtheria-tetanus-pertussis (DTaP) vaccine	↓	↓	↓			
Children 19-35 months who received 3 doses of polio vaccine	↓	↓	↓			
Children 19-35 months who received 1 dose of measles-mumps-rubella vaccine	↓	↓	↓			
Children 19-35 months who received 3 doses of H. influenzae type b (Hib) vaccine	↓	↓	↓			
Children 19-35 months who received 3 doses of hepatitis B vaccine	↓	↓	=			
Children 19-35 months who received 1 dose of varicella vaccine	↓	↓	↓			
Immunization, Adolescent[vi]						
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	=	=	=			=
Adolescents (13-15) who received 2 or more doses of measles-mumps-rubella vaccine	=	↓	↓			=
Adolescents (13-15) who received 1 or more doses of tetanus-diphtheria booster	=	=	=			=
Adolescents (13-15) who received 1 or more doses of varicella vaccine	=	=	=			=

[i] Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii] Compared with mothers with any college education.
[iii] Compared with persons under 65 with any private health insurance.
[iv] Source: National Vital Statistics System, 2001. This source did not collect information for >1 race.
[v] Source: National Immunization Survey, 2002.
[vi] Source: National Health Interview Survey, 2001.
Key: HS=high school

Table 2.6b. Socioeconomic Differences in Effectiveness of Care: Maternal and Child Health (continued)

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Childhood Screening and Counseling[iv]						
Children who had their height and weight measured by a doctor or other health provider	↓	↓	↓			↓
Children 2-17 with advice about physical activity	↓	↓	↓			↓
Children 2-17 with advice about eating healthy	↓	↓	↓			↓
Children 3-6 with a vision check	↓	↓	↓			↓
Children with advice to parent or guardian about smoking in the house	↑	↑	↑			=
Children 0-40 lbs with advice to parent or guardian about using child car safety seats	=	=	=			=
Children 40-80 lbs with advice to parent or guardian about using booster seats	↓	↓	↓			↓
Children over 80 lbs with advice to parent or guardian about using lap and shoulder belts	↓	↓	=			↓
Children 2-17 with advice about using helmets	↓	↓	↓			↓
Childhood Dental Care [iv]						
Children 2-17 with dental visit in past year	↓	↓	↓			↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with mothers with any college education.
[iii]Compared with children with any private health insurance.
[iv]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate. This source did not collect information for >1 race.
Key: HS=high school

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↓Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.7a. Racial and Ethnic Differences in Effectiveness of Care: Mental Health

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Treatment of Depression						
Suicide deaths per 100,000 population[iii]	↑	↑ [iii]		↑		↑

Table 2.7b. Socioeconomic Differences in Effectiveness of Care: Mental Health

Measure	Income Difference[iv]			Educational Difference[v]		Insurance Difference[vi]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Treatment of Depression						
Suicide deaths per 100,000 population[iii]				↓	↓	

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: National vital Statistics System-Mortality, 2001. This source did not collect information on Asians and NHOPIs seperately but in aggr egate as Asians or Pacific Islander. This source did not collect information for >1 race. This source did not collect information on income or insurance
[iv]Compared with persons with family incomes 400% of Federal pove rty thresholds or above.
[v]Compared with persons with any college education.
[iv]Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school.

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
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↓Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.8a. Racial and Ethnic Differences in Effectiveness of Care: Respiratory Diseases

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Influenza Immunization						
High risk persons 18-64 who received influenza vaccine in past year[iii]	↓	↑		=	=	↓
People 65 and over who received influenza vaccine in the past year[iii]	↓	=				↓
Hospital admissions for influenza per 100,000 population 65 and over[iv]	= [iv]	= [iv]				=
Pneumococcal Immunization[iii]						
High risk persons 18-64 who ever received pneumococcal vaccination	=				=	↓
People 65 and over who ever received pneumococcal vaccination	↓	↓				↓
Treatment of Pneumonia						
Pneumonia patients who have blood cultures taken before antibiotics[v]	↓ [v]	= [v]		=		↓
Pneumonia patients who receive initial antibiotic dose within 4 hours of arrival[v]	↓ [v]	↑ [v]		=		↓
Pneumonia patients who receive initial antibiotic consistent with current recommendations[v]	= [v]	= [v]		↓		=
Pneumonia patients who receive influenza screening or vaccination[v]	↓ [v]	= [v]		=		↓
Pneumonia patients who receive pneumococcal screening or vaccination[v]	↓ [v]	= [v]		↑		↓
Deaths per 1,000 adult admissions with pneumonia[iv]	= [iv]	↓ [iv]				=
Treatment of Upper Respiratory Infection[vi]						
Rate antibiotics prescribed at visits with a diagnosis of common cold per 10,000 population	=					
Management of Asthma[vii]						
Hospital admissions for asthma per 100,000 population under 18	↓					
Hospital admissions for asthma per 100,000 population 18 and over	↓					
Treatment of Tuberculosis[viii]						
Tuberculosis patients who complete a curative course of treatment within 12 months of initiation of treatment	=	= [viii]		↑		=

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: National Health Interview Survey, 2001.
[iv] Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
[v] Source: CMS Quality Improvement Organization program, 2001-2002. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
[vi] Source: National Ambulatory Medical Care Survey/National Hospital Ambulatory Medical Care Survey, 2000-2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[vii] Source: National Hospital Discharge Survey, 2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[viii] Source: CDC National TB Surveillance System, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

Table 2.8b. Socioeconomic Differences in Effectiveness of Care: Respiratory Diseases

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Influenza Immunization[iv]						
High risk persons 18-64 who received influenza vaccination in the past year	↓	↓	↓	↓	↓	↓
People 65 and over who received influenza vaccination in the past year	↓	↓	=	↓	↓	
Pneumococcal Immunization[iv]						
High risk persons 18-64 who ever received pneumococcal vaccination	↑	↑	=	=	=	=
People 65 and over who ever received pneumococcal vaccination	↓	↓	=	↓	↓	

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: National Health Interview Survey, 2001.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

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↓Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.9a. Racial and Ethnic Differences in Effectiveness of Care: Nursing Home and Home Health Care

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Chronic Care in Nursing Facilities[iii]						
Long-stay nursing home residents who have moderate to severe pain	↑ [iii]	↑ [iii]	↓			↑
Long-stay nursing home residents who were physically restrained	↑ [iii]	↓ [iii]	↓			↓
Long-stay nursing home residents who spend most of their time in bed or in a chair	↓ [iii]	↓ [iii]	=			↓
Long-stay nursing home residents who had a urinary tract infection	↑ [iii]	↑ [iii]	=			↑
Long-stay nursing home residents who are more depressed or anxious	↑ [iii]	↑ [iii]	↑			↑
Low risk long-stay nursing home residents who lose control of their bowels or bladder	= [iii]	= [iii]	↑			↑
Low risk long-stay nursing home residents who had a catheter inserted and left in their bladder	= [iii]	↑ [iii]	↓			=
Post-Acute Care in Nursing Facilities[iii]						
Short-stay nursing home residents with delirium	↑ [iii]	↑ [iii]	=			↑
Short-stay nursing home residents who have moderate to severe pain	↑ [iii]	↑ [iii]	=			↑
Short-stay nursing home residents who have pressure sores	↓ [iii]	= [iii]	=			↓

[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: CMS Minimum Data Set. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
↑ Group receives better quality of health care than the comparison group or has better outcomes.
↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.9a. Racial and Ethnic Differences in Effectiveness of Care: Nursing Home and Home Health Care (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Home Health Care[iii]						
Home health care patients who get better at getting dressed	↓	↓	=	↓	=	↓
Home health care patients who get better at taking their medicines correctly	=	=	=	=	=	=
Home health care patients who get better at bathing	↓	=	=	=	=	=
Home health care patients who don't get worse at bathing	=	↑	↑	=	=	↑
Home health care patients who get better at getting in and out of bed	=	=	=	=	=	=
Home health care patients who get better at walking or moving around	=	↑	↑	=	=	=
Home health care patients who get better at going to and from the toilet	↓	=	=	=	↓	↓
Home health care patients who have less pain when moving around	=	↑	=	=	=	↑
Home health care patients who have less shortness of breath	=	=	=	=	=	=
Home health care patients who have less urinary incontinence	=	=	=	=	=	↓
Home health care patients who are confused less often	=	=	=	=	=	=
Home health care patients who had to be admitted to the hospital	↓	↑	=	↓	↓	=

[i]Compared with whites.

[ii]Compared with non-Hispanic whites.

[iii]Source: CMS Outcome and Assessment Information Set, 2002.

Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Key to Symbols Used in Quality of Health Care Tables:

=: Group and comparison group receive about same quality of health care or have similar outcomes.

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↓Group receives poorer quality of health care than the comparison group or has worse outcomes.

Blank cell: Reliable estimate for group could not be made.

Table 2.10a. Racial and Ethnic Differences in Patient Safety

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Nosocomial Infections						
Selected infections due to medical care per 1000 discharges[iii]	↓ iii	↓ iii				=
Postoperative septicemia per 1,000 elective surgical discharges of 4 or more days[iii]	↓ iii	= iii				↓
Medicare beneficiaries with central venous catheter-associated infection at insertion site[iv]	=					
Medicare beneficiaries with central venous catheter-associated blood stream infection[iv]	=					
Medicare beneficiaries with postoperative pneumonia[iv]	=					
Medicare beneficiaries with postoperative urinary tract infection[iv]	=					
Medicare beneficiaries with ventilator-associated pneumonia[iv]	=					
Medicare beneficiaries with hospital-acquired blood stream infection[iv]	=					
Complications of Care						
Postoperative hemorrhage or hematoma with surgical drainage or evacuation per 1,000 surgical discharges[iii]	↓ iii	↓ iii				↑
Postoperative pulmonary embolus or deep vein thrombosis per 1,000 surgical discharges[iii]	↓ iii	↓ iii				=
Postoperative respiratory failure per 1,000 elective surgical discharges[iii]	↓ iii	↓ iii				↓
Postoperative physiologic/metabolic derangements per 1,000 elective surgeries[iii]	↓ iii	= iii				=
Complications of anesthesia per 1,000 surgical discharges[iii]	↑ iii	= iii				↑
Decubitus ulcers per 1,000 selected stays of 4 or more days[iii]	↓ iii	↑ iii				↓
Postoperative hip fractures per 1,000 surgical discharges age 18 and over[iii]	↑ iii	= iii				=
Medicare beneficiaries with postoperative pulmonaryembolus or deep vein thrombosis[iv]	↓					

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: HCUP SID disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
[iv]Source: Medicare Patient Safety Monitoring System, 2002.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Table 2.10a. Racial and Ethnic Differences in Patient Safety (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Injuries or Adverse Events Due to Care						
Medicare beneficiaries with central venous catheter-associated mechanical complication[iii]	=					
Accidental laceration or puncture during procedure per 1,000 discharges[iv]	= [iv]	= [iv]				↑
Iatrogenic pneumothorax per 1,000 relevant discharges[iv]	= [iv]	= [iv]				↑
Reclosure of postoperative disruption of abdominal wall (postoperative abdominal wound dehiscence) per 1,000 abdominopelvic-surgery discharges[iv]	= [iv]	↑ [iv]				↑
Foreign body left in during procedure per 1,000 discharges[iv]	= [iv]	= [iv]				=
Birth Related Trauma[iv]						
Birth trauma injury to neonate per 1,000 selected live births	= [iv]	= [iv]				↑
Obstetric trauma per 1,000 instrument-assisted deliveries	↑ [iv]	= [iv]				=
Obstetric trauma per 1,000 vaginal deliveries without instrument assistance	↑ [iv]	= [iv]				↑
Obstetric trauma per 1,000 cesarean deliveries	= [iv]	= [iv]				↑
Potentially Avoidable Death[v]						
Deaths per 1,000 discharges in low-mortality DRGs	↓ [iv]	= [iv]				=
Deaths per 1,000 discharges with complications potentially resulting from care (failure to rescue)	= [iv]	↓ [iv]				=
Medication Safety[v]						
Persons with provider who does not usually ask about medications and treatments other doctors may give	↑	= [v]	=			↑

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: Medicare Patient Safety Monitoring System, 2002.
[iv] Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[v] Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Key to Symbols Used in Quality of Health Care Tables:
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Blank cell: Reliable estimate for group could not be made.

Table 2.11a. Racial and Ethnic Differences in Timeliness

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Usual Source of Care[iii]						
People who have a specific source of ongoing care	=	=	=	=	↓	↓
People in fair or poor health who have a specific source of ongoing care	=	=			=	↓
People with a hospital, emergency room, or clinic as source of ongoing care	↓	=		↓	=	↓
Patient Perceptions of Their Care[iv]						
Families that experience difficulties or delays in obtaining health care or do not receive needed care	=	= [iv]	=			↓
Families that experience difficulties or delays in obtaining health care due to financial or insurance reasons	=					=
Adults who sometimes or never can get appointment for routine care as soon as wanted	↓	↓ [iv]	=			↓
Adults who sometimes or never can get care for illness or injury as soon as wanted	↓	↓ [iv]				↓
Clinical Timeliness[v]						
Pneumonia patients who receive initial antibiotic dose within 4 hours of arrival	↓ [v]	↑ [v]	=			↓
AMI patients administered aspirin within 24 hours of admission	↓ [v]	↑ [v]	=			↓

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: National Health Interview Survey, 2001.
[iv] Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[v] Source: CMS Quality Improvement Organization program, 2001-2002. This source categorizes race/ethnicity ve ry differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; AMI=acute myocardial infarction

Key to Symbols Used in Quality of Health Care Tables:
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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.11b. Socioeconomic Differences in Timeliness

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Usual Source of Care[iv]						
People who have a specific source of ongoing care	↓	↓	↓	↓	↓	↓
People in fair or poor health who have a specific source of ongoing care	↓	↓	=	↓	↓	↓
People with a hospital, emergency room, or clinic as source of ongoing care	↓	↓	↓	↓	↓	↓
Patient Perceptions of Their Care[v]						
Families that experience difficulties or delays in obtaining health care or do not receive needed care	↓	↓	↓	↓	=	↓
Families that experience difficulties or delays due to financial or insurance reasons	↓	↓	↓	↓	=	↓
Adults who sometimes or never can get appointment for routine care as soon as wanted	↓	=	↓	=	↓	↓
Adults who sometimes or never can get care for illness or injury as soon as wanted	↓	↓	=	↓	=	↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: National Health Interview Survey, 2001.
[v]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: HS=high school

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
↑ Group receives better quality of health care than the comparison group or has better outcomes.
↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.12a. Racial and Ethnic Differences in Patient Centeredness

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Patient-Provider Communication[iii]						
Adults whose providers sometimes or never listened carefullyto them	=	↓[iii]		=		↓
Adults whose providers sometimes or never explained things in a way they could understand	↓	↓[iii]		=		↓
Adults whose providers sometimes or never showed respect for what they had to say	=	=[iii]		↓		↓
Patient-Provider Relationship[iii]						
Adults whose providers sometimes or never spent enough time with them	=	=[iii]		↓		↓

Table 2.12b. Socioeconomic Differences in Patient Centeredness

Measure	Income Difference[iv]			Educational Difference[v]		Insurance Difference[vi]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Patient-Provider Communication[iii]						
Adults whose providers sometimes or never listened carefully	↓	↓	↓	↓	=	↓
Adults whose providers sometimes or never explained things in a way they could understand	↓	↓	↓	↓	↓	↓
Adults whose providers sometimes or never showed respect for what they had to say	↓	↓	↓	↓	↓	↓
Patient-Provider Relationship[iii]						
Adults whose providers sometimes or never spent enough time	↓	↓	↓	↓	=	↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[v]Compared with persons with any college education.
[vi]Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
↑Group receives better quality of health care than the comparison group or has better outcomes.
↓Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

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